



Industrial Technology

## Marine transmissions

## List of lubricants TE-ML 04

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### 1. Approved lubricant classes

Product groups	Lubricant classes for service fills <sup>(1)</sup>
ZF 4 to ZF 115 with all derived variants M, A, IV, C, TS, ATS, IVTS	04D
ZF 220 to ZF 83700 with all derived variants A, V, IV, C, U, D, NC, NR, NR2, NR2H, NR2B, TS, ATS, VTS, IVTS	04A / 04B / 04C
ZF 23560 to ZF 23860 with all derived variants NR, C, D	04B / 04C
ZF W220 to ZF W93100 with all derived variants C, NR, NC, DS, NR2H	04A / 04B / 04C
ZF W93300 and ZF W103100 with all derived variants	04E / 04F
BW 5 to BW 5300 with all derived variants	04A / 04B / 04C
BW 2356 to BW 2386	04B / 04C
HBW 35 to HBW 630 HSW 90 to HSW 110 HSW 125 to HSW 800 with all derived variants	04D
IRM 40 to IRM 50	04D
IRM 220 to IRM 350	04A / 04B / 04C
ZF SD 10, SD 12	04P
ZF SD 15	04D
SeaRex 120s, 140s, 160s	Drive oil: 04A / 04B / 04C Hydraulic oil: 04K / 04R

The list of lubricants TE-ML 04, **edition 01.04.2026** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under [www.aftermarket.zf.com/lubricants](http://www.aftermarket.zf.com/lubricants).

**ZF Friedrichshafen AG**  
D-88038 Friedrichshafen  
[www.zf.com/contact](http://www.zf.com/contact)

Product groups	Lubricant classes for service fills <sup>(1)</sup>
ZF AT 010 to 090 ZF AT 400, 2000 to 8000 with all derived variants WM, RT, DM, SM  ZF TT 010 to 090 ZF TT 400, 1000 to 8000  ZF SDT 2000 to 6000	Gearbox: 04H / 04M <sup>(4)</sup> Wet operating clutch: see footnote <sup>(9)</sup> Power pack: 04K <sup>(6)</sup> / 04R <sup>(7)</sup> Planetary gearset <sup>(5)</sup> : 04H Propeller shaft sealing monitoring: 04S  For further information on approved greases and oil volumes see <sup>(2)</sup> For information on oil condition monitoring see <sup>(3)</sup>
ZF TT 4000 CP, 5000 CP	Gearbox and Power pack: 04H For further information on approved greases and oil volumes see <sup>(2)</sup> For information on oil condition monitoring see <sup>(3)</sup> For information on approved viscosity grade and use of biodegradable oils in CP tunnel thrusters see <sup>(8)</sup>

## 2. Oil level check and change intervals

Please refer to ZF operating instructions for information on oil level check and oil filter change.  
Please refer to ZF operating instructions and / or transmission type plate for information on oil change intervals.

## 3. Explanation of footnotes and comments

- (1) **Refer to the following pages for approved commercial products.**
- (2) For further information (approved greases, oil volumes) see "Lubricants equivalents list P0166 ZF Marine Krimpen BV".
- (3) Oil condition monitoring
  - Oil condition must be checked on regular intervals by specialized laboratories. Intervals described in maintenance schedules.
  - When water contamination in the oil is reported to be above 0,5% it is recommended to change the oil as soon as possible, at latest within 2 months, and check the water contamination increase on a weekly basis.
  - When water contamination in the oil is reported to be above 3%, the oil must be changed immediately. It is highly advised to stop operation of the unit immediately, and contact service organization for remediate action.
  - The advice / report of the laboratory on both water as other contamination is leading!
  - ZF Marine Krimpen BV is in any case not responsible for damages caused by incorrect follow up of the interval checks and advices regarding water in oil or other contamination.
- (4) Oil change from standard oil to biodegradable oil  
The following points must be taken into account:
  - Biodegradable oils are miscible with standard oils. Advice for applying biodegradable oils is that the system should be drained and flushed to ensure that the remaining standard oil content of the refilled system is less than 5 %. Mixture less than 5 % has to be confirmed by laboratory oil analysis.
  - All seals, especially propeller and steering pipe seals, in the thruster unit need to be replaced by new ones.
  - Replace lubricant filter.
  - Recommendation: install water separators on the thruster unit.
  - Take oil samples after 50 up to 100 running hours with the new oil.
- (5) Planetary gearsets valid for ambient temperatures of +5°C to +40°C when not connected to the main lubrication oil system.
- (6) Power pack - for units placed in machinery room or on deck running at standard ambient temperatures use lubricants according to lubricant class 04K.
- (7) Power pack - for units placed on deck running at ice-cold ambient temperatures use lubricants according to lubricant class 04R.
- (8) For CP tunnel thrusters the power pack, lower gearbox and header tank is one oil compartment, this means that the total system is working with ISO VG 100 lubricating oil.  
Use of biodegradable oil in CP tunnel thrusters will be only possible if the power pack is specially prepared to be suitable for using biodegradable oil.
- (9) Information regarding the approved lubricants for the wet operating clutch can be found in the operating manual of the respective clutch variant.  
For the wet operating clutch mounted to the upper gearbox of the ZF AT 4000, 5000, 6000 lubricants according to lubricant class 04Q must be used.

Additives of any kind added **later** to the oil change the oil in a manner that is unpredictable, and they are therefore not permitted.  
No liability of any kind will be accepted by ZF for any damage resulting from the use of such additives.

## 4. Greasing points

Multi-purpose grease according to the specification / requirement:

- DIN 51825 classification KP2K-30 and/or
- ISO 6743-9 classification ISO-L-XCCEB2 or
- ISO 6743-9 classification ISO-L-XCCHB2
- Base oil: mineral or synthetic hydrocarbons (no ester)
- Thickener type: Ca, Li (simple, mixed, complex soap)
- Consistency class: NLGI 2
- EP additives
- Temperature operation limits: min. -30°C to +120°C

### Note:

All commercial products that meet the above specifications/requirements may be used.

There will be no product listing.

At outside temperatures above -20°C, greases with the following classification may also be used:

- DIN 51825 classification KP2K-20 and/or
- ISO 6743-9 classification ISO-L-XBCEB2 or
- ISO 6743-9 classification ISO-L-XBCHB2

## 5. Lubricant classes and approved trade products

### Lubricant class 04A

Engine oil according to the specification / requirement:

- API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/CI-4 Plus/CJ-4/CK-4  
and / or API SF/SG/SH/SJ/SL/SM/SN  
and / or ACEA categories A/B/E
- Viscosity grade: SAE 30 (also SAE 40 in hot-weather countries or at oil sump temperatures over +80°C)
- Base oil API Group 1 / 2 / 3 / 4

### Note:

1. All trade products which satisfy the above specifications may be used. There will be no product listing.
2. For transmissions which are classified according to DNV, fluids of the class 04A may not be used. Instead of this fluids according to classes 04B or 04C may be used.

Viscosity grade: SAE 30 (also SAE 40 in hot-weather countries or at oil sump temperatures over +80°C)

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Viscosity grades: SAE 5W-40 / 10W-40 / 15W-40

Manufacturer (04C)	Trade name (04C)	ZF approval number
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 400 MGX SAE 15W-40	ZF003355
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 600 ADF SAE 15W-40	ZF009463
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 600 ADF SAE 15W-40	ZF009769
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 400 SLK SAE 15W-40	ZF012115
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 400 SLK SAE 15W-40	ZF012116
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO 400 SLK SAE 15W-40	ZF012112
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF003522
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF003603
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF003604
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC XHP ESP 10W-40	ZF005940
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 10W-40 ADVANCED PROTECTION	ZF008335
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF008402
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF009439
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF009802
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF009511
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF010968
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF011923
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 10W-40 ADVANCED PROTECTION	ZF012010
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 10W-40 ADVANCED PROTECTION V3	ZF012070
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 10W-40 ADVANCED PROTECTION	ZF012019
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC XHP ESP 10W-40	ZF012018
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 10W-40 ADVANCED PROTECTION V4	ZF012071
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC 1300 SUPER 15W-40	ZF012136
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC MODERN 15W-40 FULL PROTECTION	ZF012145
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGARD HSD+ 15W-40	ZF012137
ROLLS-ROYCE SOLUTIONS GMBH, FRIEDRICHSHAFEN/DE	DEO SAE 15W-40 ULTRA	ZF008350
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R4 X 15W-40 (CI-4/E7/DH-1)	ZF001482
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R4 L 15W- 40	ZF002262
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	ROTELLA T3 FLEET 15W- 40	ZF002266
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	ROTELLA T4 TRIPLE PROTECTION 15W- 40 (CK-4)	ZF003486
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R6 M 10W-40	ZF006057
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R6 LM 10W-40	ZF006060
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R6 MS 10W-40	ZF006061
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SIRIUS S4 15W-40	ZF008209
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R3 X 15W-40	ZF008357

**Lubricant class 04D****Automatic Transmission Fluid (ATF)****Manufacturer (04D)**

ACPA, ALEXANDRIA/EG  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG  
 ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG  
 ALLEGHENY PETROLEUM, WILMERDING, PA/US  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CITGO PETROLEUM CORPORATION, HOUSTON/US  
 CLASS KGAA MBH, HARSEWINKEL/DE  
 COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 EXOL LUBRICANTS LTD, WEDNESBURY/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GLOBAL LUBRICANT INDUSTRY LLC, AJMAN/AE  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF WESTERN OIL (AUST) PTY LTD, ST MARYS/AU  
 H. BANTLEON GMBH / GESELLS. D. AVIA, ULM/DE  
 HI-TEC OILS, SMITHFIELD/AU  
 HILL CORPORATION, SHYMKENT/KZ  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 IGOL FRANCE, AMIENS/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 INGRAX INDUSTRIA E COMERCIO DE GRAXA S/A, DUQUE DE CAXIAS/BR  
 JOHN DEERE, MOLINE, ILLINOIS/US  
 KOCÁK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR  
 KOCÁK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE

**Trade name (04D)**

ACPA DEX-IIIH  
 ADDINOL ATF D III  
 ADDINOL ATF D II D  
 ADDINOL ATF XN 2  
 ADDINOL ATF XN 5  
 ADDINOL ATF XN HD  
 ADDINOL ATF XN 3  
 AMOC POWER  
 AMOC POWER PLUS  
 ALTRA SHL EXTENDED DRAIN ZF 20C  
 AVISTA PEER EVO ATF 3000  
 AVISTA PEER EVO ATF 2000  
 EMGARD 2805  
 TECTROL ATF 3000  
 TECTROL ATF 4000  
 LUBEX ATF-II  
 LUBEX ATF-III KYS  
 LUBEX ATF-III KYS  
 LUBEX ATF-III M  
 BELGIN LUBEX MITRAS ATF III PLUS  
 BELGIN LUBEX ATF II  
 BELGIN LUBEX MITRAS ATF SYN ULTRA  
 BELGIN LUBEX ATF-III M  
 BELGIN LUBEX MITRAS ATF HD III  
 CASTROL TRANSYND  
 CASTROL TRANSMAX ATF Z  
 TES-295 SYN TRANSMISSION FLUID  
 CASTROL TRANSMAX ATF DX II MULTIVEHICLE  
 CASTROL TRANSMAX ATF DX III MULTIVEHICLE  
 CHAMPION OEM SPECIFIC MULTI VEHICLE ATF HD-LD  
 TEXAMATIC 4291  
 DELO SYN ATF HD  
 HAVOLINE MULTI-VEHICLE ATF  
 CITGO QUATRASYN SYNTHETIC TRANSMISSION FLUID  
 AGRISHIFT ATF  
 ATF ALLPOWER MULTIVEHICULOS  
 ATF DII  
 VALVOLINE HEAVY DUTY ATF D-II  
 ENI ROTRA ATF II E  
 ENI ROTRA ATF MULTI  
 ENI ROTRA ATF II D  
 ENI ROTRA ATF HD PLUS  
 AUTOTRANS ELC  
 MOBIL ATF 220  
 MOBIL ATF SHC  
 MOBIL ATF 320  
 MOBIL ATF LT 71141  
 MOBIL DELVAC 1 ATF  
 MOBIL ATF 220  
 MOBIL ATF 320  
 MOBIL ATF D 21065  
 STATOIL TRANSWAY PS DX III  
 FUCHS TITAN ATF 5005  
 FUCHS TITAN ATF 3000  
 PENTOSIN ATF IIIH  
 TRANSWAY ATF ULTRA  
 FUCHS TITAN ATF 5500  
 FUCHS TITAN ATF 1  
 FUCHS TITAN ATF 4000  
 FUCHS TITAN ATF 4000  
 PENTOSIN ATF 1  
 BENZOL TRANSDRIVE ATF DEXRON III  
 GULF ATF DX III H  
 GULF ATF DX II  
 GULF ATF PC  
 SYN-TS@ ZFV  
 AVILUB FLUID ATZ 295  
 MULTITRANS PLUS ATF  
 FASTROL ATF 3  
 RTO STARMATIC S3  
 RTO STARMATIC 3  
 IGOL ATF 430  
 INA ATF SUPER  
 INA ATF DX III  
 INA ATF DX IID  
 INA ATF EKSTRA  
 INA ATF DX IIIH  
 UNIMATIC D-II PLUS  
 HD SYNTHETIC TRANSMISSION FLUID  
 SPEEDOL ATF DEXRON II  
 SPEEDOL ATF DEXRON S III  
 Q8 AUTO 20  
 Q8 AUTO 14  
 Q8 AUTO 14  
 Q8 AUTO 15 ED  
 Q8 AUTO 15

**ZF approval number**

ZF004823  
 ZF000699  
 ZF000698  
 ZF003702  
 ZF004911  
 ZF004913  
 ZF004910  
 ZF001702  
 ZF001703  
 ZF001756  
 ZF004774  
 ZF004775  
 ZF003370  
 ZF004798  
 ZF004799  
 ZF001031  
 ZF002255  
 ZF002293  
 ZF004892  
 ZF008301  
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 ZF008386  
 ZF008387  
 ZF011973  
 ZF000226  
 ZF002158  
 ZF002298  
 ZF003358  
 ZF003368  
 ZF007147  
 ZF001574  
 ZF001664  
 ZF001714  
 ZF003690  
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 ZF000385  
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 ZF008343  
 ZF008344  
 ZF002315  
 ZF000248  
 ZF000390  
 ZF000392  
 ZF000410  
 ZF002314  
 ZF000079  
 ZF004851  
 ZF000979  
 ZF001388  
 ZF000083  
 ZF000176  
 ZF001991  
 ZF002121  
 ZF002269

**Manufacturer (04D)**

KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LUBREX FZC, SHARJAH/AE  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 MABANOL GMBH & CO. KG, HAMBURG/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOEVE COMMERCIAL S.A.U., MADRID/ES  
 MOEVE COMMERCIAL S.A.U., MADRID/ES  
 MOEVE COMMERCIAL S.A.U., MADRID/ES  
 MOEVE COMMERCIAL S.A.U., MADRID/ES  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MORRIS LUBRICANTS, SHREWSBURY/GB  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTUL SA, AUBERVILLIERS/FR  
 MOTUL SA, AUBERVILLIERS/FR  
 MOTUL SA, AUBERVILLIERS/FR  
 OILFINO MINERALÖL GMBH, PRISDORF/DE  
 OILFINO MINERALÖL GMBH, PRISDORF/DE  
 OPET FUCHS MADENI YAG SAN. VE TIC. A.S., IZMIR/TR  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN S.A., GDANSK/PL  
 ORLEN S.A., GDANSK/PL  
 ORLEN S.A., GDANSK/PL  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETROGAL S.A., LISBOA/PT  
 PETROGAL S.A., LISBOA/PT  
 PETROGAL S.A., LISBOA/PT  
 PETROL OFISI A.S., ISTANBUL/TR  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 PHI OIL GMBH, ST. GEORGEN/AT  
 PRISTA OIL HOLDING EAD, RUSE/BG  
 RALLOY LUBRICANTES, S.A. DE C.V., SANTIAGO TIANGUISTEN/MX  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE  
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE  
 ROWE MINERALÖLWERK GMBH, WORMS/DE  
 ROWE MINERALÖLWERK GMBH, WORMS/DE  
 S.I.R.A.L. SPA, NOLA NAPOLI/IT  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN

**Trade name (04D)**

Q8 AUTO Z3D  
 ROXOR ATF SUPER VTX  
 LIEBHERR HYDRAULIC-GEAR ATF  
 LIQUI MOLY ATF DEXRON IID  
 LIQUI MOLY MARINE ATF  
 LIQUI MOLY ATF III  
 LIQUI MOLY TOP TEC ATF 1100  
 LUBREX DRIVEMAX III  
 LUKOIL ATF SYNTH MN Z3  
 LUKOIL ATF  
 LUKOIL ATF IID  
 LUKOIL ATF SYNTH MULTI  
 TEBOL FLUID ES-MAX  
 MABANOL RADON GEAR ATF III MV  
 MEGOL HYDRAULIKOEL ATF DEXRON II D  
 MEGOL TRANSMISSION-FLUID ATF III  
 CEPESA ATF 3000 S  
 CEPESA ATF 70  
 CEPESA ATF 2000S  
 CEPESA ATF 4000 S  
 MOL ATF SYNT  
 MOL ATF 3G  
 MOL ATF  
 MOL ATF SYNT 3H  
 MOL ATF SYNT  
 MULTITRANS ACV  
 MOTOREX YORK ATF TP  
 YORK 886  
 MOTOREX\_YORK ATF VZ  
 MOTUL DEXRON III  
 MOTUL DEXRON II D  
 MOTUL ATF HD  
 OILFINO SPONTE ATF II  
 OILFINO SPONTE ATF III  
 OTOKAR SPECTRA ATF Z  
 HIPOL ATF II D  
 HIPOL ATF II E  
 PLATINUM GEAR ATF III  
 ORLEN OIL GEAR ATF III  
 LOTOS ATF II D  
 LOTOS ATF II D  
 LOTOS ATF IIIG  
 ATF XT III FLUID PLUS  
 ATF XT III FLUID  
 DX FLUID II TS  
 DURADRIE HD LONG DRAIN ATF  
 DURADRIE HD SYNTHETIC BLEND ATF  
 DURADRIE HD ATF  
 GALP TRANSMATIC D II  
 GALP TRANSMATIC D III  
 GALP TRANSMATIC Z  
 ATF DX-3  
 TUTELA TRANSMISSION ATF 120  
 TUTELA TRANSMISSION GI/A  
 TUTELA TRANSMISSION GI/E  
 ARBOR MTA  
 PETRONAS TUTELA ATF 700 HD  
 PETRONAS TUTELA ATF 500 HD  
 PETRONAS TUTELA ATF 500 HD  
 TUTELA ATF 900 HD  
 PETRONAS TUTELA GI/A  
 ATF D3 SILVER  
 ATF D3 GOLD  
 PRISTA ATF  
 TRANSFLUID SYNTHETIC M-5  
 RAVENOL DEXRON III H  
 REPSOL MATIC ATF  
 REPSOL MATIC ATF  
 REPSOL MATIC ATF  
 REPSOL MATIC III  
 REPSOL MATIC SINTETICO  
 REPSOL AUTOMATOR ATF III  
 REPSOL AUTOMATOR ATF 14C  
 REPSOL AUTOMATOR ATF II  
 REPSOL AUTOMATOR ATF II  
 REPSOL AUTOMATOR ATF II  
 ROLF ATF IID  
 ROLF ATF IIIG  
 ROWE HIGHTEC ATF 9000  
 ROWE HIGHTEC ATF 8000  
 SIROIL ATF MAXIMUM  
 SHELL SPIRAX S6 ATF VM PLUS  
 SPIRAX S4 ATF HDX  
 SHELL SPIRAX S2 ATF AX  
 SHELL SPIRAX S6 ATF ZM  
 SINOPEC GREATWALL ATF III LD  
 SINOPEC GREATWALL ATF HD S  
 SINOPEC GREATWALL SYNTHETIC ATF HD  
 SINOPEC GREATWALL ATF HD  
 SINOPEC GREATWALL FULLY SYNTHETIC ATF HD S

**ZF approval number**

ZF003726  
 ZF011929  
 ZF002119  
 ZF002052  
 ZF004927  
 ZF004928  
 ZF004926  
 ZF006044  
 ZF009451  
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 ZF012153  
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 ZF001371  
 ZF001812  
 ZF005982  
 ZF006080  
 ZF001360  
 ZF003346  
 ZF003347  
 ZF003348  
 ZF003345



**Manufacturer (04D)**

SPECOL SP. Z O.O., CHORZOW/PL  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TEDEX S.A., LUBOCHNIA/PL  
 TEDEX S.A., LUBOCHNIA/PL  
 TEDEX S.A., LUBOCHNIA/PL  
 TEDEX S.A., LUBOCHNIA/PL  
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR  
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR  
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN  
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 UNIL OPAL, SAUMUR/FR  
 UNIL OPAL, SAUMUR/FR  
 UNITED OIL COMPANY PTE LTD, SINGAPORE/SG  
 UNITED OIL COMPANY PTE LTD, SINGAPORE/SG  
 UNIX AUTO, BUDAPEST/HU  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE EUROPE, DORDRECHT/NL  
 VALVOLINE GLOBAL PRODUCTS, LEXINGTON/US  
 VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR  
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE  
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE  
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE  
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE  
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (04D)**

HIPOSPEC ATF IID  
 SRS WOLIN ATF D  
 SRS WOLIN ATF III  
 SRS WOLIN ATF III MV  
 TEDEX ATF III  
 TEDEX ATF SYNTHETIC (S)  
 TEDEX SYNTHETIC ATF  
 TEDEX ATF II D  
 TEXSA ATF SUPER  
 MONTANA DYNAMIC ATF 2  
 LINGXIAN 6+ AUTOMATIC TRANSMISSION FLUID  
 LINGXIAN 10+ AUTOMATIC TRANSMISSION FLUID  
 ELF ELFMATIC G3 SYN  
 ELF ELFMATIC G3  
 FLUIDMATIC D3  
 FLUIDMATIC D2  
 ELFMATIC D2  
 FLUIDMATIC D2  
 FLUIDMATIC AT 42  
 FLUIDMATIC XLD FE  
 ELFMATIC D2  
 MATIC DX III  
 MATIC D  
 UNITED MV 99  
 UNITED ATF MV 88  
 A.Z. MEISTERTEILE GETRIEBEÖL ATF III  
 VALVOLINE HEAVY DUTY ATF PRO LD  
 VALVOLINE HEAVY DUTY ATF PRO  
 SYN GARD™ ATF ES  
 LUBRAX ATF HD  
 WOLF OFFICIALTECH MULTI VEHICLE ATF HD-LD  
 DIVINOL ATF SPEZIAL R  
 ZF LIFEGUARDFLUID 5  
 ZF ECOFLUID A LIFE  
 ZF MARINE SAFEGUARD

**ZF approval number**

ZF003354  
 ZF000438  
 ZF000439  
 ZF002061  
 ZF001350  
 ZF002213  
 ZF001279  
 ZF002043  
 ZF001207  
 ZF003664  
 ZF003377  
 ZF003378  
 ZF001582  
 ZF001699  
 ZF004886  
 ZF006067  
 ZF006068  
 ZF006069  
 ZF008239  
 ZF008244  
 ZF010594  
 ZF001010  
 ZF001071  
 ZF003562  
 ZF010099  
 ZF005996  
 ZF001872  
 ZF001873  
 ZF003710  
 ZF002120  
 ZF006128  
 ZF009444  
 ZF001363  
 ZF001671  
 ZF008364

**Lubricant class 04E**

Engine oil according to the specification / requirement:

- API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/CI-4 Plus/CJ-4/CK-4  
and / or API SF/SG/SH/SJ/SL/SM/SN  
and / or ACEA categories A/B/E
- Viscosity grade: SAE 50
- Base oil API Group 1 / 2 / 3 / 4

**Note:**

All trade products which satisfy the above specifications may be used. There will be no product listing.

**Lubricant class 04F**  
Lubricating oil CLP  
Viscosity grade: ISO VG 220

Manufacturer (04F)	Trade name (04F)	ZF approval number
CASTROL LTD, LONDON/GB	CASTROL ALPHASYN HG 220	ZF001508
CASTROL LTD, LONDON/GB	CASTROL ALPHASYN HG 220	ZF010860
CHEVRON LUBRICANTS, SAN RAMON, CA/US	MEROPA 220	ZF000811
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGEAR 600 XP 220	ZF000852
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILGEAR 600 XP 220	ZF010965

**Lubricant class 04H**

## Lubricating oil CLP

Viscosity grade (product groups in accordance with page 1):

- ZF AT, TT, SDT - L-Drive variants - Gearbox: ISO VG 100
- ZF AT, TT, SDT - Z-Drive variants - Gearbox: ISO VG 150
- ZF AT, TT, SDT - Planetary gearset: ISO VG 100 / 150
- ZF TT 4000 CP, 5000 CP - Gearbox und Power pack: ISO VG 100

**Manufacturer (04H)**

AVIA AG, MÜNCHEN/DE  
 AVIA AG, MÜNCHEN/DE  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GULF OIL MARINE LTD., SINGAPORE/SG  
 GULF OIL MARINE LTD., SINGAPORE/SG  
 H. BANTLEON GMBH / GESELLS. D. AVIA, ULM/DE  
 H. BANTLEON GMBH / GESELLS. D. AVIA, ULM/DE  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 KLÜBER LUBRICATION, MUNICH/DE  
 KLÜBER LUBRICATION, MUNICH/DE  
 SCHAEFFER MFG., SAINT LOUIS MO/US  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE

**Trade name (04H)**

AVIA GEAR RSX 100  
 AVIA GEAR RSX 150  
 CASTROL ALPHASYN HG 150  
 CASTROL ALPHASYN HG 100  
 CASTROL ALPHA SP 100  
 CASTROL ALPHA SP 150  
 MEROPA 100  
 MEROPA XL 100  
 MEROPA 150  
 MEROPA XL 150  
 ENI BLASIA FMP 150  
 ENI BLASIA SX 100  
 MOBILGEAR 600 XP 100  
 MOBIL SHC GEAR 150  
 MOBILGEAR XMP 150  
 MOBILGEAR 600 XP 150  
 MOBILGEAR 600 XP 150  
 FUCHS RENOLIN UNISYN CLP 100  
 FUCHS RENOLIN UNISYN CLP 150  
 GULFSEA GEAR OIL 100  
 GULFSEA GEAR OIL 150  
 AVIA SYNTOGear PE 100  
 AVIA SYNTOGear PE 150  
 SERVOMESH XP 150  
 SERVOMESH XP 100  
 KLÜBERSYNTH GEM 4-150 N  
 KLÜBERSYNTH GEM 4-100 N  
 209AM MARINE MOLY UNIVERSAL GEAR LUBE ISO 150  
 SHELL OMALA S4 GXV 150  
 SHELL OMALA S2 GX 100  
 SHELL OMALA S2 GX 150  
 SHELL MARINE GEAR FLUID S2 GX 150  
 SRS ERSOLAN 100  
 SRS ERSOLAN 150

**ZF approval number**

ZF003431  
 ZF003476  
 ZF002094  
 ZF003449  
 ZF011122  
 ZF011123  
 ZF003568  
 ZF003569  
 ZF003570  
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 ZF003423  
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 ZF003723  
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 ZF003482  
 ZF003591  
 ZF003549  
 ZF008359  
 ZF008360  
 ZF010066  
 ZF003462  
 ZF003463

**Lubricant class 04K**

Hydraulic oil HLP

Viscosity grade (product groups in accordance with page 1):

- SeaRex: ISO VG 32 / 46

- ZF AT, TT, SDT - Power pack: ISO VG 46

**Manufacturer (04K)**

AVIA AG, MÜNCHEN/DE  
 AVIA AG, MÜNCHEN/DE  
 AVIA AG, MÜNCHEN/DE  
 AVIA AG, MÜNCHEN/DE  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 KLÜBER LUBRICATION, MUNICH/DE  
 KLÜBER LUBRICATION, MUNICH/DE  
 SCHAEFFER MFG., SAINT LOUIS MO/US  
 SCHAEFFER MFG., SAINT LOUIS MO/US  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE

**Trade name (04K)**

AVIA FLUID ZAD 32  
 AVIA FLUID ZAD 46  
 AVIA FLUID RSL 32  
 AVIA FLUID RSL 46  
 HYSPIIN AWS 32 HX  
 HYSPIIN AWS 46 HX  
 HYSPIIN AWS 32  
 HYSPIIN AWS 46  
 RANDO HD 32  
 RANDO HD 46  
 CLARITY HYDRAULIC OIL AW 46  
 CLARITY HYDRAULIC OIL AW 32  
 CLARITY AW 32  
 CLARITY AW 46  
 ENI OSO 32  
 ENI OSO 46  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 46  
 MOBIL DTE 10 EXCEL 46  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 46  
 SERVOSYSTEM HLP 32  
 SERVOSYSTEM HLP 46  
 LAMORA HLP 46  
 LAMORA HLP 32  
 112M MARINE HTC OIL ISO 32  
 112M MARINE HTC OIL ISO 46  
 SHELL TELLUS S2 MX 32  
 SHELL TELLUS S2 MX 46  
 SHELL MARINE HYDRAULIC FLUID S2 MX 46  
 SRS WIOLAN HS 32  
 SRS WIOLAN HS 46  
 SRS WIOLAN HX 46  
 SRS WIOLAN HX 32

**ZF approval number**

ZF003477  
 ZF003478  
 ZF003422  
 ZF003475  
 ZF004933  
 ZF005933  
 ZF010858  
 ZF010859  
 ZF003573  
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 ZF003578  
 ZF003577  
 ZF012005  
 ZF012011  
 ZF003425  
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 ZF006130  
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 ZF006132  
 ZF006133  
 ZF012008  
 ZF012009  
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 ZF003580  
 ZF003581  
 ZF003537  
 ZF003540  
 ZF010033  
 ZF003456  
 ZF003457  
 ZF003458  
 ZF003459

**Lubricant class 04M**

Biodegradable oil

Viscosity grade (product groups in accordance with page 1):

- ZF AT, TT, SDT L-Drive variants - Gearbox: ISO VG 100

- ZF AT, TT, SDT Z-Drive variants - Gearbox: ISO VG 150

**Note:**

For use of biodegradable oils see footnotes and comments 3 and 4 page 2.

**Manufacturer (04M)**

CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 KAJO GMBH, ANROECHTE/DE  
 KAJO GMBH, ANROECHTE/DE  
 KLÜBER LUBRICATION, MUNICH/DE  
 KLÜBER LUBRICATION, MUNICH/DE  
 PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
 PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
 PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
 PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
 SCHAEFFER MFG., SAINT LOUIS MO/US  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 VICKERS OILS, LEEDS/GB  
 VICKERS OILS, LEEDS/GB

**Trade name (04M)**

CASTROL BIOSTAT 100  
 CASTROL BIOSTAT 150  
 CASTROL BIOTRANS GB 100  
 CASTROL BIOTRANS GB 150  
 MOBIL SHC AWARE GEAR 100  
 MOBIL SHC AWARE GEAR 150  
 MOBIL SHC AWARE GEAR OIL 100  
 MOBIL SHC AWARE GEAR OIL 150  
 PLANTOGear 150 S  
 PLANTOGear 100 S  
 KAJO®-BIO-GEAR OIL 150  
 KAJO®-BIO-GEAR OIL 100  
 KLÜBERBIO EG 2-100  
 KLÜBERBIO EG 2-150  
 SHELL PANOLIN S4 GEAR EAL 100  
 SHELL PANOLIN S4 GEAR EAL 150  
 SHELL PANOLIN S4 GEAR 100  
 SHELL PANOLIN S4 GEAR 150  
 567M VGP EAL MARINE ECOSHIELD EP 150  
 SHELL NATURELLE S4 GEAR FLUID 100  
 SHELL NATURELLE S4 GEAR FLUID 150  
 BIOGEAR XP 100  
 BIOGEAR XP 150

**ZF approval number**

ZF002122  
 ZF002203  
 ZF012138  
 ZF012139  
 ZF002281  
 ZF002282  
 ZF012221  
 ZF012222  
 ZF008358  
 ZF008348  
 ZF012161  
 ZF012160  
 ZF001732  
 ZF001733  
 ZF012037  
 ZF012038  
 ZF012030  
 ZF012031  
 ZF004920  
 ZF001792  
 ZF001793  
 ZF002204  
 ZF002265

**Lubricant class 04P**

Engine oil according to the specification / requirement:

- API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/CI-4 Plus/CJ-4/CK-4  
and / or API SF/SG/SH/SJ/SL/SM/SN  
and / or ACEA categories A/B/E
- Viscosity grade: SAE 15W-40
- Base oil API Group 1 / 2 / 3 / 4

**Note:**

All trade products which satisfy the above specifications may be used. There will be no product listing.

**Lubricant class 04Q**

Lubricating oil

Viscosity grade: ISO VG 150

**Manufacturer (04Q)**

CASTROL LTD, LONDON/GB  
KLÜBER LUBRICATION, MUNICH/DE  
PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

**Trade name (04Q)**

CASTROL ALPHASYN HG 150  
KLÜBERBIO EG 2-150  
SHELL PANOLIN S4 GEAR 150  
SHELL NATURELLE S4 GEAR FLUID 150

**ZF approval number**

ZF002094  
ZF001733  
ZF012031  
ZF001793



**Lubricant class 04R**

Hydraulic oil HVLP

Viscosity grade (product groups in accordance with page 1):

- SeaRex: ISO VG 32 / 46

- ZF AT, TT, SDT - Power pack: ISO VG 46

**Manufacturer (04R)**

AVIA AG, MÜNCHEN/DE  
 AVIA AG, MÜNCHEN/DE  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 ENILIVE S.P.A., ROME/IT  
 ENILIVE S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GULF OIL MARINE LTD., SINGAPORE/SG  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE

**Trade name (04R)**

AVIA FLUID HVI 32  
 AVIA FLUID HVI 46  
 HYSPI AWH-M 32  
 HYSPI AWH-M 46  
 RANDO HDZ 32  
 RANDO HDZ 46  
 ENI ARNICA 46  
 ENI ARNICA 32  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 46  
 MOBIL DTE 10 EXCEL 46  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 32  
 MOBIL DTE 10 EXCEL 46  
 FUCHS RENOLIN B 32 HVI  
 FUCHS RENOLIN B 46 HVI  
 FUCHS RENOLIN UNISYN OL 32  
 FUCHS RENOLIN UNISYN OL 46  
 GULFSEA HYDRAULIC HVI PLUS 46  
 SHELL TELLUS S2 VX 46  
 SHELL TELLUS S2 VX 32  
 SHELL MARINE HYDRAULIC FLUID S2 VX 32  
 SHELL MARINE HYDRAULIC FLUID S2 VX 46  
 SRS WIOLAN HV 32  
 SRS WIOLAN HV 46

**ZF approval number**

ZF003479  
 ZF003480  
 ZF005934  
 ZF005935  
 ZF003575  
 ZF003576  
 ZF003428  
 ZF003427  
 ZF006130  
 ZF006131  
 ZF006132  
 ZF006133  
 ZF012008  
 ZF012009  
 ZF003506  
 ZF003508  
 ZF003514  
 ZF003515  
 ZF003516  
 ZF003543  
 ZF003544  
 ZF010034  
 ZF010035  
 ZF003460  
 ZF003461

**Lubricant class 04S**

Biodegradable oil

Viscosity grade (product groups in accordance with page 1):

- ZF AT, TT - Propeller shaft sealing monitoring: ISO VG 46 / 68

**Manufacturer (04S)**

CASTROL LTD, LONDON/GB  
CASTROL LTD, LONDON/GB  
KLÜBER LUBRICATION, MUNICH/DE  
PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH  
PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH

**Trade name (04S)**

CASTROL BIOBAR 46  
CASTROL BIOBAR 68  
KLÜBERBIO EG 2-68  
SHELL PANOLIN S4 HLP SYNTH EAL 46  
SHELL PANOLIN S4 HLP SYNTH EAL 68

**ZF approval number**

ZF009429  
ZF009430  
ZF010979  
ZF012035  
ZF012036